

**ISOLATION AND CHARACTERIZATION OF THE *csa* OPERON  
(ETEC- CS4 PILI) AND METHODS OF USING SAME**

**Abstract of the Disclosure**

Compositions comprising products of the *csa* operon, an isolated nucleic acid  
5 encoding the *csa* operon or functional fragments thereof, purified polypeptide products  
of the *csa* operon or functional fragments thereof, methods of eliciting an immune  
response to these products, and methods of producing products of the *csa* operon are  
disclosed herein.

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